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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/039,024

12/31/2001

Peter L. Doyle

42390P11482

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09/15/2004

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EXAMINER

TUNG, KEE M

ART UNIT

PAPER NUMBER

2676

9  
DATE MAILED: 09/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/039,024

Applicant(s)

DOYLE, PETER L.

Examiner

Kee M Tung

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 July 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The amendment and RCE filed 7/19/04 have been considered in preparing this Office action.

#### ***Specification***

1. The disclosure is objected to because of the following informalities: The specification fails to discuss figure 2 of the drawings under section of Detail Description.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

2. Claims 1-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claimed "bin determination" is not described as to what it is and what particular function it is being performed.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-3, 8-13, 18-23 and 28-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhu et al (6,344,852 hereinafter "Zhu").

Zhu teaches an apparatus (Fig. 1) for processing graphical objects comprising a plurality of binning memory areas (18) associated with regions (tiles) that are intersected by graphical objects; a binning engine (12) for receiving the graphical objects, wherein the binning engine identifies and discards graphical objects that would not be viewable to a user prior to replicating graphical objects into binning memory areas and replicates the remaining graphical objects into the plurality of binning memory areas (col. 1, lines 63-67, col. 2, lines 2-6, 11-17, col. 3, lines 45-53); a rendering engine (20) for rendering the graphical objects in the plurality of binning memory areas. Therefore, at least claim 1 is anticipated by Zhu.

Zhu further teaches identifies and discards back facing graphical objects (col. 6, lines 49-51) which include back facing triangles (col. 6, lines 40-47). Therefore, at least claims 2-3 and 8-10 are anticipated by Zhu.

Claims 11-13 and 18-20 are similar in scope to claims 1-3 and 8-10, and thus are rejected under similar rationale.

Claims 21-23 and 28-30 are similar in scope to claims 1-3 and 8-10, and thus are rejected under similar rationale.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-10 and 12-20 and 22-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu et al (6,344,852 hereinafter "Zhu") in view of Deolaliker (5,898,437).

The teachings of Zhu are given in previous paragraph of this Office action. However, Zhu fails to explicitly teach or suggest, to discard front facing graphical object. This is what Deolaliker teaches. Deolaliker teaches a method for fast rendering of 3D objects by generating lists of like facing coherent primitives (abstract, Fig. 4A) and identify which triangles of objects of the image are front facing and which are back facing and discard based on which method for processing, front or back facing and selected either front facing (Fig. 6) or back facing (Fig. 7) culling technique (Fig. 5). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to combine the teachings of Deolaliker into the system of Zhu because Deolaliker suggests or teaches that the culling is a technique commonly used in today's graphics system (col. 6, lines 7-8, note Deolaliker's filing date is 4/28/95) and

to add the flexibility of user select either back facing or front facing culling technique into the system of Zhu greatly add the flexibility to the system in addition to the times reduce for write graphics data into the memory and read from the memory as taught by Zhu (col. 6, lines 63-67). Therefore, at least claims 2-10, 12-20 and 22-30 would have been obvious.

### ***Response to Arguments***

5. Applicant's arguments filed 7/19/04 have been fully considered but they are not persuasive.

Basically, applicant argues that Zhu fails to teach "discarding graphical objects that would not be viewable to a user prior to binning determination." The examiner disagrees. Zhu clearly teaches "Geometry Rejector 27 (col. 6, lines 26-67) discarding graphical objects that would not be viewable to a user prior to binning determination (Geometry tiler 28 and col. 7, lines 1-26). It seems that applicant is arguing "vertex buffer 26 does all the discarding graphical objects and geometry rejector 27 is the claimed binning determination unit which is not corrected as shown in the specification. Therefore, applicant's arguments are not deemed to be persuasive.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kee M Tung whose telephone number is 703-305-9660. The examiner can normally be reached on Tuesday - Friday from 5:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 703-308-6829. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kee M Tung  
Primary Examiner  
Art Unit 2676